PATENT
Attorney Docket No. SS00346

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| Applicant: Edward A. Walter | ) | I hereby certify that this paper is being electronically deposited with the United States Patent and Trademark Office on this date: |
| Serial No.: 10/682,366 | ) | |
| Filed: October 8, 2003 | ) | **November 5, 2010** |
| For: SYSTEM AND METHOD FOR PROVIDING DATA CONTENT ANALYSIS IN A LOCAL AREA NETWORK | ) | /Margaret Spiker/<br>Margaret Spiker |
| Group Art Unit: 2435 | ) | |
| Examiner: Randal D. Moran | ) | |

# BRIEF ON APPEAL

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Sir:

This Brief is being submitted in support of a Notice of Appeal filed on September 1, 2009, in connection with a Pre-Appeal Brief Request for Review submitted in response to a final Office action dated April 1, 2009, in which claims 1-7 and 9-24 were finally rejected. In response to the Notice of Appeal and Pre-Appeal Brief Request for Review, a Notice of Panel Decision from Pre-Appeal Brief Review indicating that there is at least one actual issue for appeal was mailed on May 12, 2010. The assignee respectfully submits the instant Brief on Appeal in response to the Notice of Panel Decision from Pre-

Appeal Brief Review and in accordance with 37 C.F.R. § 41.37, along with a petition for an appropriate extension of time.

## I. Real Party In Interest

The above-referenced patent application has been assigned to SBC Knowledge Ventures, L.P., which is now known as AT&T Intellectual Property I, L.P. AT&T Intellectual Property I, L.P. is the real party in interest to this appeal. The assignment from the inventors to SBC Knowledge Ventures, L.P. has been recorded in the United States Patent and Trademark Office ("PTO") at Frame 0277 of Reel 015025.

## II. Related Appeals and Interferences

There are no related appeals or interferences.

## III. Status of the Claims

Currently, claims 1-7 and 9-24 are pending in this application. Claim 8 has been previously cancelled. The status of all claims is presented in the Claims Appendix of this Brief. Claims 1-7 and 9-24 stand rejected and form the subject matter of this appeal.

## IV. Status of the Amendments

All amendments that were made in this application have been entered. No amendments were filed after the final Office action.

## V. Summary of the Claimed Subject Matter

Although reference numerals and specification citations are inserted below in accordance with 37 C.F.R. 41.37(c)(1)(v), these references numerals and citations are merely examples of where support may be found in the specification for the terms used in this section of the brief. There is no intention to in any way suggest that the terms of the claims are limited to the examples in the specification. Although, as demonstrated by the reference numerals and citations below, the claims are fully supported by the specification as required by law, it is improper under the law to read limitations from the specification into the claims. Pointing out specification support for the claim terminology as is done here to comply with Rule 41.37(c)(1)(v) does not in any way limit the scope of the claims to those examples from which they find support. Nor does this exercise provide a mechanism for circumventing the law precluding reading limitations into the claims from the specification. In short, the reference numerals and specification citations are not to be construed as claim limitations or in any way used to limit the scope of the claims.

The invention as defined in independent claim 1 is directed toward a method for analyzing data content received at a local area network from an external communications network. (*Specification*, ¶ [0005], and ¶ [0028] as amended on January 22, 2007; *FIG.* 6.) The method includes receiving unanalyzed content at a local area network (*Id.*), and passing the unanalyzed content to a switch in the local area network (*Id.*). The method also includes analyzing the unanalyzed content at the switch and generating analyzed data. (*Id.*) The method further includes routing the analyzed data to a device in the local area network in communication with the switch (*Specification*, ¶ [0005], and ¶ [0028] as amended on January 22, 2007), wherein the switch comprises a plurality of ports (*Id.* at ¶¶ [0015], [0016]; *FIG.* 3), and wherein analyzing the unanalyzed content at the switch comprises the switch scanning the plurality of ports and applying a content analysis algorithm to each of the plurality of ports (*Specification* at ¶¶ [0005], [0019], and ¶ [0028] as amended on January 22, 2007), wherein applying the content analysis algorithm comprises applying a first content analysis algorithm to a first port of the plurality of ports and applying a second content analysis algorithm to a second port of the plurality of ports (*Id.* at ¶¶ [0017], [0019], and ¶ [0028] as amended on January 22, 2007), wherein the second content analysis algorithm is different than the first content analysis algorithm (*Id.* at ¶¶ [0017], [0019]).

The invention of claim 2 further defines analyzing the unanalyzed content as recited in claim 1 to include applying a content filtering algorithm to the unanalyzed content upon ingress at one of the plurality of ports. (*Id.* at ¶ [0029].)

The invention of claim 3 further defines analyzing the unanalyzed content as recited in claim 1 to include applying a content filtering algorithm to the unanalyzed content upon egress at one of the plurality of ports. (*Id.* at ¶ [0029].)

The invention of claim 4 further defines that the unanalyzed content as recited in claim 1 is formatted in data packets. (*Id.* at ¶ [0029].)

The invention of claim 5 further defines analyzing the unanalyzed content at the switch as recited in claim 1 and in view of claim 4 to include the switch applying the content analysis algorithm to each data packet of unanalyzed content. (*Id.* at ¶ [0029], and ¶ [0028] as amended on January 22, 2007.)

The invention of claim 6 further defines the switch applying the content analysis algorithm as recited in claim 5 to include the switch executing an antivirus algorithm. (*Id.* at ¶¶ [0005], [0016], [0017], [0019].)

The invention of claim 7 further defines the switch applying the content analysis algorithm as recited in claim 5 to include the switch executing an intrusion detection algorithm. (*Id.* at ¶¶ [0005], [0016].)

The invention of claim 9 further defines that each of the plurality of ports as recited in claim 1 includes a dedicated processor (*Id.* at ¶¶ [0007], [0016]), and that each dedicated processor for a respective port independently applies a separate content analysis algorithm to unanalyzed content at the port (*Id.* at ¶¶ [0017], [0019]), whereby each of the plurality of ports analyzes content with its respective processor (*Id.*).

The invention of claim 10 further defines the method as recited in claim 1 to include receiving a content analysis software update at the switch from a managed service provider network via the external communications network. (*Id.* at ¶¶ [0006], [0008], [0021], and ¶ [0020] as amended on January 22, 2007.)

The invention of claim 11 further defines the method as recited in claim 10 to include applying the content analysis software update to each of the plurality of ports at the switch configured to implement content analysis software contained in the content analysis software update. (*Id.* at ¶¶ [0008], [0017], [0019], [0021], and ¶ [0027] as amended on January 22, 2007.)

The invention as defined in independent claim 12 is directed toward a method of managing content analysis for a local area network from a managed service provider network (*Id.* at ¶ [0006], and ¶ [0028] as amended on January 22, 2007; *FIG.* 5), wherein the local area network comprises a switch in communication with an external communications network and at least one device in communication with the switch (*Specification* at ¶¶ [0006], [0015]; *FIG.* 2). The method includes establishing a communication link between the switch of the local area network and the managed service provider network via the external communications network. (*Specification* at ¶¶ [0006], [0021].) The method also includes transmitting port configuration instructions from the managed service provider network to the switch of the local area network. (*Id.* at ¶ [0006], and ¶¶ [0026], [0027] as amended on January 22, 2007.) In the recited method, the port configuration instructions include instructions to configure a plurality of ports on a port-to-port basis at the switch to implement at least two content analysis functions (*Id.* at ¶¶ [0006], [0017], [0019], and ¶ [0026] as amended on January 22, 2007) and to cause the switch to scan and apply a first content analysis function to a first selected port of the plurality of ports and scan and apply a second content analysis function to a second selected port of the plurality of ports (*Id.* at ¶¶ [0017], [0019], and ¶ [0028] as amended on January 22, 2007), wherein the second content analysis function is different than the first content analysis function (*Id.* at ¶¶ [0017], [0019]).

The invention of claim 13 further defines the method as recited in claim 12 to include receiving a content analysis software update at the managed service provider network (*Id.* at ¶ [0006], and ¶ [0027] as amended on January 22, 2007), transmitting the content analysis software update to the switch (*Id.* at ¶¶ [0006], [0008], and ¶ [0027] as amended on January 22, 2007), and updating content analysis software at the switch with the content analysis software update (*Id.* at ¶¶ [0008], [0019], [0021], and ¶ [0027] as amended on January 22, 2007).

The invention of claim 14 further defines the method as recited in claim 12 to include monitoring content analysis activity at the switch from the managed service provider network. (*Id.* at ¶¶ [0006], [0022].)

The invention as defined in independent claim 15 is directed toward a method of providing content analysis policy to a plurality of networks. (*Id.* at ¶ [0008].) The method includes establishing a communication link between a switch in each of a plurality of subscriber networks and an application management appliance of a managed service provider network via an external communications network. (*Id.* at ¶¶ [0008], [0021]; *FIG.* 4.) The method also includes transmitting one of instructions or update information for a content analysis application from the application management appliance to the switch in each of the plurality of subscriber networks (*Specification* at ¶¶ [0008], [0021], and ¶ [0020] as amended on January 22, 2007), the content analysis application comprising a first content analysis application and a second content analysis application (*Id.* at ¶¶ [0017], [0019]), wherein the switch in each of the plurality of subscriber networks comprises a plurality of ports (*Id.* at ¶¶ [0015], [0016]; *FIG.* 3). The method further includes applying the first content analysis application to a first port of the plurality of ports and applying the second content analysis application to a second port of the plurality of ports (*Specification* at ¶¶ [0017], [0019], and ¶ [0028] as amended on January 22, 2007), wherein the second content analysis application is different than the first content analysis application (*Id.* at ¶¶ [0017], [0019]). Additionally, the method includes receiving performance metrics of the first and second different content analysis applications from each of the plurality of subscriber networks (*Id.* at ¶¶ [0008], [0022], and ¶ [0030] as amended on January 22, 2007), and wherein receiving performance metrics comprises receiving performance metrics for each of the plurality of ports in substantially real time (*Id.* at ¶ [0030] as amended on January 22, 2007).

The invention as defined in independent claim 16 is directed toward a local area network switch system having content analysis capabilities. (*Id.* at ¶ [0007].) The system includes a billing server (*Id.* at ¶ [0021], and ¶ [0026] as amended on January 22, 2007), and a plurality of ports in communication with the billing server (*Id.*), each of the plurality of ports configured for communication with a respective external device (*Id.* at ¶¶ [0007], [0015]). In the recited system, each of the ports includes: an interface connection adapted for connecting with a communication line of an external device (*Id.* at ¶¶ [0007], [0016]); a processor in communication with the interface connection (*Id.*); a memory in communication with the processor (*Id.*); an application buffer in communication with the processor and the memory (*Id.*), wherein the application buffer contains logic operative on the processor to analyze a content of information passing between the external device and the port (*Id.*); and a communication bus in communication with each of the plurality of ports (*Id.*), the communication bus adapted to carry information between the plurality of ports (*Id.*). Additionally, a first application buffer contains logic for applying a first content analysis algorithm to a first port of the plurality of ports and a second application buffer contains logic for applying a second content analysis algorithm to a second port of the plurality of ports (*Id.* at ¶¶ [0017], [0019]), wherein the second content analysis algorithm is different than the first content analysis algorithm (*Id.*). Furthermore, the billing server is operable to track charges for content analysis services and bill on a per port basis. (*Id.* at ¶ [0026] as amended on January 22, 2007.)

The invention of claim 17 further defines the system as recited in claim 16 to include an application buffer administrative interface in communication with the communication bus (*Id.* at ¶ [0017]), wherein the application buffer administrative interface comprises content analysis resources accessible by the application buffer for each of the plurality of ports (*Id.*).

The invention of claim 18 further defines that at least one of the application buffers as recited in claim 16 is to include anti-virus filtering logic. (*Id.* at ¶ [0017].)

The invention of claim 19 further defines that at least one of the application buffers as recited in claim 16 is to include network security logic. (*Id.* at ¶ [0017].)

The invention of claim 20 further defines that at least one of the application buffers as recited in claim 16 is to include content filtering logic. (*Id.* at ¶ [0017].)

The invention of claim 21 further defines the application buffer administrative interface as defined in claim 17 is to include anti-virus definitions adapted for use by anti-virus logic stored on an application buffer at each of the plurality of ports. (*Id.* at ¶ [0017].)

The invention as defined in independent claim 22 is directed toward a method for analyzing data content received at a local area network from an external communications network. (*Id.* at ¶ [0005], and ¶ [0028] as amended on January 22, 2007.) The method includes receiving at a local area network unanalyzed data content in a data field of a data packet formatted according to a communications protocol (*Id.* at ¶¶ [0005], [0029], and ¶ [0028] as amended on January 22, 2007), and passing the unanalyzed content to a switch in the local area network (*Id.* at ¶ [0005], and ¶ [0028] as amended on January 22, 2007). The method also includes analyzing the unanalyzed content at the switch and generating analyzed data. (*Id.*) The method further includes routing the analyzed data to a device in the local area network in communication with the switch (*Id.*), wherein the switch comprises a plurality of ports (*Id.* at ¶¶ [0015], [0016]), and wherein analyzing the unanalyzed content at the switch comprises the switch scanning the plurality of ports and applying a content analysis algorithm to each of the plurality of ports (*Id.* at ¶¶ [0005], [0019], and ¶ [0028] as amended on January 22, 2007), wherein applying the content analysis algorithm comprises applying a first content analysis algorithm to a first port of the plurality of ports and applying a second content analysis algorithm to a second port of the plurality of ports (*Id.* at ¶¶ [0017], [0019], and ¶ [0028] as amended on January 22, 2007), wherein the second content analysis algorithm is different than the first content analysis algorithm (*Id.* at ¶¶ [0017], [0019]).

The invention of claim 23 further defines the first content analysis algorithm as recited in claim 22 to include a first data content analysis algorithm (*Id.* at ¶¶ [0005], [0019]), and the second content analysis algorithm as recited in claim 22 to include a second data content analysis algorithm (*Id.*).

The invention as defined in independent claim 24 is directed toward a method for analyzing data content received at a local area network from an external communications network. (*Id.* at ¶ [0005], and ¶ [0028] as amended on January 22, 2007.) The method includes receiving at a local area network unanalyzed data content in a data field of a data packet formatted according to a communications protocol (*Id.* at ¶¶ [0005], [0029], and ¶ [0028] as amended on January 22, 2007), and passing the unanalyzed content to a switch in the local area network (*Id.* at ¶ [0005], and ¶ [0028] as amended on January 22, 2007). The method also includes analyzing the unanalyzed content at the switch and generating analyzed data. (*Id.*) The method further includes routing the analyzed data to a device in the local area network in communication with the switch (*Id.*), wherein the switch comprises a plurality of ports (*Id.* at ¶¶ [0015], [0016]), and wherein analyzing the unanalyzed content at the switch comprises the switch scanning the plurality of ports and applying a data content analysis algorithm to each of the plurality of ports (*Id.* at ¶¶ [0005], [0019], and ¶ [0028] as amended on January 22, 2007), wherein applying the data content analysis algorithm comprises applying a first data content analysis algorithm to a first port of the plurality of ports and applying a second data content analysis algorithm to a second port of the plurality of ports (*Id.* at ¶¶ [0017], [0019], and ¶ [0028] as amended on January 22, 2007), wherein the second data content analysis algorithm is different than the first data content analysis algorithm (*Id.* at ¶¶ [0017], [0019]).

## VI. Grounds of Rejection To Be Reviewed on Appeal

The grounds of rejection to be reviewed on appeal are as follows:

Ground 1: The rejections of claims 1-7, 10-14 and 22-24 as unpatentable over the combination of *Islam* (U.S. Publication No. 2003/0035430), *Vairavan* (U.S. Publication No. 2002/0083344) and *Jain* (U.S. Patent No. 6,324,575) under 35 U.S.C. § 103.

Ground 2: The rejection of claim 9 as unpatentable over the combination of *Islam*, *Vairavan*, *Jain* and *Wilson* (U.S. Patent No. 4,292,465) under 35 U.S.C. § 103.

Ground 3: The rejection of claim 15 as unpatentable over the combination of *Islam*, *Webb* (U.S. Publication No. 2002/0120741) and *Jain* under 35 U.S.C. § 103.

Ground 4: The rejections of claims 16-21 as unpatentable over the combination of *Webb*, *Vairavan*, *Van Horne* (U.S. Patent No. 5,987,430) and *Jain* under 35 U.S.C. § 103.

## VII. Argument

### Ground 1. Claims 1-7, 10-14 and 22-24 are Patentable Over the Combination of *Islam*, *Vairavan* and *Jain*

### Claims 1-7, 10-14 and 22-24

### A. The Combination of *Islam*, *Vairavan* and *Jain* is Missing at Least One Element of Claim 1

Claim 1 is repeated here for ease of reference:

> 1. A method for analyzing data content received at a local area network from an external communications network, wherein the method comprises:
>
> receiving unanalyzed content at a local area network;
>
> passing the unanalyzed content to a switch in the local area network;
>
> analyzing the unanalyzed content at the switch and generating analyzed data; and
>
> routing the analyzed data to a device in the local area network in communication with the switch, wherein the switch comprises a plurality of ports, and wherein analyzing the unanalyzed content at the switch comprises the switch scanning the plurality of ports and applying a content analysis algorithm to each of the plurality of ports,
>
> wherein applying the content analysis algorithm comprises ***applying a first content analysis algorithm to a first port of the plurality of ports and applying a second content analysis algorithm to a second port of the plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm***.

It is well-settled that a *prima facie* case of obviousness under a rationale of combining prior art elements requires "a finding that the prior art included *each* element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference." M.P.E.P. § 2143(A) (citing *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, ___, 82 USPQ2d 1385, 1395-97 (2007)). Here, claim 1 is nonobvious and, thus, patentable because the combination of *Islam*, *Vairavan* and *Jain* fails to teach or suggest applying a first content analysis algorithm to a first port of a plurality of ports and applying a second content analysis algorithm to a second port of a plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm.

### B. The Combination of *Islam* and *Vairavan* Fails to Teach or Suggest Applying the First and Second Content Analysis Algorithms as Recited in Claim 1

As noted above, the final Office action rejected claims 1-7, 10-14 and 22-24 as being unpatentable over the combination of *Islam*, *Vairavan* and *Jain* under 35 U.S.C. § 103. However, in the final Office action, the Examiner acknowledged that the combination of *Islam* and *Vairavan* fails to describe applying a first content analysis algorithm to a first port of a plurality of ports and applying a second content analysis algorithm to a second port of a plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm, as recited in claim 1. (*Final Office Action*, page 4, lines 3-7.) The assignee respectfully agrees with this determination.

### C. *Jain* Fails to Overcome the Deficiencies of the *Islam* and *Vairavan* Combination with Respect to Claim 1

The Examiner relies on *Jain* to overcome the acknowledged deficiencies of the *Islam* and *Vairavan* combination with respect to claim 1. However, the assignee respectfully submits that the Examiner's reliance on *Jain* is misplaced because, contrary to the Examiner's assertion (see the *Final Office Action*, page 17, lines 2-7), determining whether to select between two multicast filtering options at each port of a switch, as described in *Jain*, is not the same as applying two different content analysis algorithms at two different ports, as recited in claim 1. Instead *Jain*, like *Islam* and *Vairavan,* also fails to teach or suggest applying a first content analysis algorithm to a first port of a plurality of ports and applying a second content analysis algorithm to a second port of a plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm, as recited in claim 1.

*Jain* describes a switch having multiple ports. (*Jain*, col. 6, lines 38-41.) At each port, *Jain's* switch determines whether one or more clients coupled to the port support group multicast regsitration protocol (GMRP) and, thus, are compliant with the Institute of Electrical and Electronics Engineers (IEEE) 802.1p protocol incorporated into the IEEE 802.1D standard. (*Id.* at col. 7, lines 19-23; col. 8, lines 20-29.) If all clients coupled to the port support GMRP, then *Jain's* switch automatically selects a first multicast filtering mode corresponding to a Filter Unregistered Groups mode for the port. (*Id.* at col. 8, lines 30-43.) However, if at least one client coupled to the port does not support GMRP, then *Jain's* switch automatically selects a second multicast filtering mode corresponding to a Forward All Groups mode for the port. (*Id.* at col. 8, lines 44-61.)

In other words, *Jain's* switch implements one of two options at each of its ports. In particular, each port applies either one type of multicast filtering (i.e., filtering unregistered groups when Filter Unregistered Groups is selected) or no multicast filtering (i.e., forwarding all groups when Forward All Groups is selected). Thus, *Jain* describes only one type of multicast filtering algorithm (i.e., Filter Unregistered Groups) and each port can either apply this same multicast filtering algorithm to incoming packets, or apply no multicast filter processing to the incoming packets.

In contrast to *Jain*, the method of claim 1 recites two different content analysis algorithms being applied at two different ports of a switch. The broadest reasonable interpretation of the term "content analysis algorithm," which is consistent with the use of this term in the specification (see e.g. the *Specification*, ¶¶ [0016], [0019], [0020], [0028]), requires that the algorithm performs some type of analysis on the content received at the port. Thus, the method of claim 1 requires two different content analysis algorithms, where each algorithm performs some different type of analysis of the content received at its respective port. However, even assuming for the sake of argument that *Jain's* multicast filtering is a content analysis algorithm in the context of claim 1 (a point not conceded by the assignee), *Jain* at most describes only one type of algorithm, namely filtering unregistered groups when Filter Unregistered Groups is selected, that can be applied to any given switch port. *Jain's* other option, Forward All Groups, actually performs no filtering (because all groups are forwarded) and, thus, corresponds to applying no analysis of the content at the given switch port. Clearly, the absence of applying any analysis of the content at a port cannot teach or suggest applying a second content analysis algorithm, because no content analysis is performed.

Thus, even when viewed in a most favorable light, *Jain* could at most suggest applying either the same content analysis algorithm (i.e., Filter Unregistered Groups) at two different ports, or applying this content analysis algorithm at one port and no content analysis algorithm at the other port. However, *Jain* does not teach or suggest applying two different content analysis algorithms at two different ports, as recited in claim 1. Simply put, the Examiner's contention that Jain's second option (i.e., Forward All Groups) teaches a different, second content analysis algorithm, as recited in claim 1, is unreasonable and, thus, in error because *Jain's* second option performs no content analysis.

Accordingly, *Jain* fails to teach or suggest applying a first content analysis algorithm to a first port of a plurality of ports ***and applying a second content analysis algorithm to a second port of the plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm***, as recited in claim 1. Because *Islam*, *Vairavan* and *Jain* all fail to teach or suggest the same element of claim 1, the assignee respectfully submits that the obviousness rejection of claim 1 under 35 U.S.C. § 103 was in error and should be reversed by the Board.

### D. Claims 2-5, 7 and 10-11

"If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." M.P.E.P. § 2143.03 (citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)). Claims 2-7 and 10-11 depend on claim 1. As such, the foregoing argument demonstrating the patentability of claim 1 likewise demonstrates the patentability of these dependent claims. Accordingly, the rejections of claims 2-7 and 10-11, which depend on claim 1, should be reversed by the Board.

## E. Claim 6

Claim 6 depends on claim 1. Therefore, for at least the reasons the rejection of claim 1 must be reversed, the rejection of claim 6 must likewise be reversed.

Furthermore, claim 6 specifies that the switch applying the content analysis algorithm as recited in claim 5 is to include the switch executing an antivirus algorithm. Claim 5 specifies that analyzing the unanalyzed content at the switch as recited in claim 1 and in view of claim 4 is to include the switch applying the content analysis algorithm to each data packet of unanalyzed content. Claim 1 specifies that analyzing the unanalyzed content at the switch comprises the switch scanning the plurality of ports and applying a content analysis algorithm to each of the plurality of ports. The content analysis algorithm recited in claim 6 is the same of the content analysis algorithm recited in claims 1 and 5. As recited in claim 1, the content analysis algorithm is applied to a switch port. Thus, properly construed, claim 6 requires the switch to execute an antivirus algorithm for application at a port of the switch.

The Examiner contends that the recitation of claim 6 may be found at paragraph [0105] of *Vairavan*. Paragraph [0105] of *Vairavani* is repeated here for ease of reference:

> [0105] An anti-virus module 330 is also included within the packet processor 210. The anti-virus module 330 is coupled to the first internal packet bus 335, the second internal packet bus 345, and the internal control bus 340. The anti-virus module 330 provides an anti-virus agent that monitors devices on an attached network for viruses. Additionally, the anti-virus module 330 provides automatic updating of

> an anti-virus package. ***As a result, virus security is controlled by the inter/intra-networking device and any updates are centrally pushed onto various devices in the enterprise***.

(*Vairavan*, ¶ [0105]) (emphasis added). As the highlighted portion of paragraph [0105] indicates, although the anti-virus module in *Vairavani's* inter/intra-networking device centrally controls an anti-virus package, the anti-virus package is actually pushed to the various devices coupled to the inter/intra-networking device. Thus, like the prior art described in paragraph [0003] of the instant specification, *Vairavani* describes performing anti-virus detection at each device in the network, instead of applying an anti-virus algorithm at a port of the switch, as recited in claim 6. Accordingly, the rejection of claim 6 is in error and should be reversed by the Board.

## F. Independent Claim 12

Independent claim 12 recites, among other things, instructions "to configure a plurality of ports on a port-to-port basis at the switch to implement at least two content analysis functions and to cause the switch to scan and apply a first content analysis function to a first selected port of the plurality of ports ***and scan and apply a second content analysis - function to a second selected port of the plurality of ports, wherein the second content analysis function is different than the first content analysis function***" (emphasis added). In the final Office action, the Examiner acknowledged that the combination of *Islam* and *Vairavan* fails to describe causing a switch to scan and apply a second content analysis function to a second selected port of the plurality of ports, wherein the second content analysis function is different than the first content analysis function. (*Final Office Action*, page 6, lines 3-5.) As explained above in connection with claim 1, *Jain* fails to teach or suggest applying two different content analysis algorithms at two different ports and, thus, also fails to teach or suggest causing a switch to scan and apply a second content analysis function to a second selected port of the plurality of ports, wherein the second content analysis function is different than the first content analysis function, as recited in claim 12. Because *Islam*, *Vairavan* and *Jain* all fail to teach or suggest the same element of claim 12, the assignee respectfully submits that the obviousness rejection of claim 12 under 35 U.S.C. § 103 was in error and should be reversed by the Board.

Additionally, the assignee respectfully notes that claim 12 contains a typographical error in the form of an extraneous dash after the phrase "second content analysis" in the claim. The assignee intends to correct this typographical error upon reversal of the rejection of claim 12 by the Board.

### G. Claims 13-14

Claims 13 and 14 depend on claim 12. As such, the foregoing argument demonstrating the patentability of claim 12 likewise demonstrates the patentability of these dependent claims. Accordingly, the rejections of claims 13 and 14, which depend on claim 12, should be reversed by the Board.

## H. Independent Claim 22

Independent claim 22 recites, among other things, "***applying a first content analysis algorithm to a first port of the plurality of ports and applying a second content analysis algorithm to a second port of the plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm***" (emphasis added). In the final Office action, the Examiner acknowledged that the combination of *Islam* and *Vairavan* fails to describe the foregoing aspect of claim 22. (*Final Office Action*, page 8, lines 1-5.) As explained above, *Jain* fails to teach or suggest applying two different content analysis algorithms at two different ports and, thus, also fails to teach or suggest applying a first content analysis algorithm to a first port of the plurality of ports and applying a second content analysis algorithm to a second port of the plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm, as recited in claim 22. Because *Islam*, *Vairavan* and *Jain* all fail to teach or suggest the same element of claim 22, the assignee respectfully submits that the obviousness rejection of claim 22 under 35 U.S.C. § 103 was in error and should be reversed by the Board.

## I. Claim 23

Claim 23 depends on claim 22. As such, the foregoing argument demonstrating the patentability of claim 22 likewise demonstrates the patentability of this dependent claim. Accordingly, the rejection of claim 23, which depends on claim 22, should be reversed by the Board.

## J. Independent Claim 24

Independent claim 24 recites, among other things, "***applying a first data content analysis algorithm to unanalyzed data content at a first port of the plurality of ports and applying a second data content analysis algorithm to unanalyzed data content at a second port of the plurality of ports, wherein the second data content analysis algorithm is different than the first data content analysis algorithm***" (emphasis added). In the final Office action, the Examiner acknowledged that the combination of *Islam* and *Vairavan* fails to describe applying a first content analysis algorithm to a first port of the plurality of ports and applying a second content analysis algorithm to a second port of the plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm and, thus, fails to describe the foregoing aspect of claim 24. (*Final Office Action*, page 8, lines 1-5.) As explained above, *Jain* fails to teach or suggest applying two different content analysis algorithms at two different ports and, thus, also fails to teach or suggest applying a first data content analysis algorithm to unanalyzed data content at a first port of the plurality of ports and applying a second data content analysis algorithm to unanalyzed data content at a second port of the plurality of ports, wherein the second data content analysis algorithm is different than the first data content analysis algorithm, as recited in claim 24. Because *Islam*, *Vairavan* and *Jain* all fail to teach or suggest the same element of claim 24, the assignee respectfully submits that the obviousness rejection of claim 24 under 35 U.S.C. § 103 was in error and should be reversed by the Board.

## Ground II. Claim 9 is Patentable Over the Combination of *Islam*, *Vairavan, Jain* and *Wilson*

### Claim 9

### A. Claim 9 is Patentable over the Combination of *Islam*, *Vairavan* and *Jain*

Claim 9 depends on claim 1. As such, the foregoing argument demonstrating the patentability of claim 1 likewise demonstrates the patentability of claim 9 over the combination of *Islam*, *Vairavan* and *Jain*.

### B. *Wilson* Fails to Overcome the Deficiencies of the *Islam*, *Vairavan* and *Jain* Combination with Respect to Claim 9

As explained above, neither *Islam*, *Vairavan* nor *Jain* teach or suggest applying a first content analysis algorithm to a first port of a plurality of ports and applying a second content analysis algorithm to a second port of a plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm, as recited in claim 1 from which claim 9 depends. The Examiner does not rely on *Wilson* to overcome this deficiency of the *Islam*, *Vairavan* and *Jain* combination. Instead, the Examiner contends that *Wilson*, at col. 22, lines 27-32, and col. 29, lines 16-24, describes that each of the plurality of ports comprises a dedicated processor and each dedicated processor for a respective port independently applies a separate content analysis algorithm to unanalyzed content at the port, whereby each of the plurality of ports analyzes content with its respective processor, as recited in claim 9. Even if such a contention is true (a point not conceded by the assignee), these portions of *Wilson*, like *Islam*, *Vairavan* and *Jain*, fail to teach or suggest applying two different content analysis algorithms at two different switch ports. Thus, because *Islam*, *Vairavan*, *Jain* and *Wilson* all fail to teach or suggest the same element of claim 9, the assignee respectfully submits that the obviousness rejection of claim 9 under 35 U.S.C. § 103 was in error and should be reversed by the Board.

## Ground III. Claim 15 is Patentable Over the Combination of *Islam*, *Webb* and *Jain*

### Claim 15

### A. The Combination of *Islam*, *Webb* and *Jain* is Missing at Least One Element of Claim 15

Claim 15 is repeated here for ease of reference:

> 15. A method of providing content analysis policy to a plurality of networks, the method comprising:
>
> establishing a communication link between a switch in each of a plurality of subscriber networks and an application management appliance of a managed service provider network via an external communications network;
>
> transmitting one of instructions or update information for a content analysis application from the application management appliance to the switch in each of the plurality of subscriber networks, the content analysis application comprising a first content analysis application and a second content analysis application, wherein the switch in each of the plurality of subscriber networks comprises a plurality of ports; and
>
> ***applying the first content analysis application to a first port of the plurality of ports and applying the second content analysis application to a second port of the plurality of ports, wherein the second content analysis application is different than the first content analysis application***; and
>
> receiving performance metrics of the first and second different content analysis applications from each of the plurality of subscriber networks, and wherein receiving

> performance metrics comprises receiving performance metrics for each of the plurality of ports in substantially real time.

Claim 15 is nonobvious and, thus, patentable because the combination of *Islam*, *Webb* and *Jain* fails to teach or suggest applying a first content analysis application to a first port of a plurality of ports and applying a second content analysis application to a second port of the plurality of ports, wherein the second content analysis application is different than the first content analysis application.

### B. The Combination of *Islam* and *Webb* Fails to Teach or Suggest Applying the First and Second Content Analysis Applications as Recited in Claim 15

As noted above, the final Office action rejected claim 15 as being unpatentable over the combination of *Islam*, *Webb* and *Jain* under 35 U.S.C. § 103. However, in the final Office action, the Examiner acknowledged that the combination of *Islam* and *Webb* fails to describe a content analysis application comprising a first content analysis application and a second content analysis application, wherein the switch in each of the plurality of subscriber networks comprises a plurality of ports, and applying the first content analysis application to a first port of the plurality of ports and applying the second content analysis application to the second port of a plurality of ports, wherein the second content analysis application is different than the first content analysis application, as recited in claim 15. (*Final Office Action*, page 12, lines 6-12.) The assignee respectfully agrees with this determination.

### C. *Jain* Fails to Overcome the Deficiencies of the *Islam* and *Webb* Combination with Respect to Claim 15

The Examiner relies on *Jain* to overcome the acknowledged deficiencies of the *Islam* and *Webb* combination with respect to claim 15. However, as explained above in connection with claim 1, *Jain* fails to teach or suggest applying two different content analysis algorithms at two different ports and, thus, also fails to teach or suggest applying a first content analysis application to a first port of a plurality of ports and applying a second content analysis application to a second port of the plurality of ports, wherein the second content analysis application is different than the first content analysis application, as recited in claim 15. Because *Islam*, *Webb* and *Jain* all fail to teach or suggest the same element of claim 15, the assignee respectfully submits that the obviousness rejection of claim 15 under 35 U.S.C. § 103 was in error and should be reversed by the Board.

### Ground IV. Claims 16-21are Patentable Over the Combination of *Islam*, *Vairavan*, *Van Horne* and *Jain*

### Claims 16-21

### A. The Combination of *Islam*, *Vairavan*, *Van Horne* and *Jain* is Missing at Least One Element of Claim 16

Claim 16 is repeated here for ease of reference:

> 16. A local area network switch system having content analysis capabilities comprising:
>
> a billing server;
>
> a plurality of ports in communication with the billing server, each of the plurality of ports configured for communication with a respective external device, and each of the plurality of ports comprising:
>
> an interface connection adapted for

> connecting with a communication line of an external device;
>
> a processor in communication with the interface connection;
>
> a memory in communication with the processor;
>
> an application buffer in communication with the processor and the memory, wherein the application buffer contains logic operative on the processor to analyze a content of information passing between the external device and the port; and
>
> a communication bus in communication with each of the plurality of ports, the communication bus adapted to carry information between the plurality of ports,
>
> ***wherein a first application buffer contains logic for applying a first content analysis algorithm to a first port of the plurality of ports and a second application buffer contains logic for applying a second content analysis algorithm to a second port of the plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm***,
>
> wherein the billing server is operable to track charges for content analysis services and bill on a per port basis.

Claim 16 is nonobvious and, thus, patentable because the combination of *Islam*, *Vairavan*, *Van Horne* and *Jain* fails to teach or suggest a first application buffer that contains logic for applying a first content analysis algorithm to a first port of the plurality of ports and a second application buffer that contains logic for applying a second content analysis algorithm to a second port of the plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm.

### B. The Combination of *Islam*, *Vairavan* and *Van Horne* Fails to Teach or Suggest Applying the First and Second Content Analysis Algorithms as Recited in Claim 16

As noted above, the final Office action rejected claim 16 as being unpatentable over the combination of *Islam*, *Vairavan*, *Van Horne* and *Jain* under 35 U.S.C. § 103. However, in the final Office action, the Examiner acknowledged that the combination of *Islam*, *Vairavan* and *Van Horne* fails to describe a first application buffer that contains logic for applying a first content analysis algorithm to a first port of the plurality of ports and a second application buffer that contains logic for applying a second content analysis algorithm to a second port of the plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm, as recited in claim 16. (*Final Office Action*, page 15, lines 3-7.) The assignee respectfully agrees with this determination.

### C. *Jain* Fails to Overcome the Deficiencies of the *Islam*, *Vairavan* and *Van Horne* Combination with Respect to Claim 16

The Examiner relies on *Jain* to overcome the acknowledged deficiencies of the *Islam*, *Vairavan* and *Van Horne* combination with respect to claim 16. However, as explained above in connection with claim 1, *Jain* fails to teach or suggest applying two different content analysis algorithms at two different ports and, thus, also fails to teach or suggest a first application buffer that contains logic for applying a first content analysis algorithm to a first port of the plurality of ports and a second application buffer that contains logic for applying a second content analysis algorithm to a second port of the plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm, as recited in claim 16. Because *Islam*, *Vairavan*, *Van Horne* and *Jain* all fail to teach or suggest the same element of claim 16, the assignee respectfully submits that the obviousness rejection of claim 16 under 35 U.S.C. § 103 was in error and should be reversed by the Board.

### D. Claims 17-21

Claims 17-21 depend on claim 16. As such, the foregoing argument demonstrating the patentability of claim 16 likewise demonstrates the patentability of these dependent claims. Accordingly, the rejections of claims 17-21, which depend on claim 16, should be reversed by the Board.

### E. Claim 18

Claim 18 depends on claim 16. Therefore, for at least the reasons the rejection of claim 16 must be reversed, the rejection of claim 18 must likewise be reversed.

Furthermore, claim 18 specifies that at least one of the application buffers as recited in claim 16 is to include anti-virus filtering logic. Claim 16 specifies that each of the plurality of ports comprises an application buffer in communication with the processor and the memory, wherein the application buffer contains logic operative on the processor to analyze a content of information passing between the external device and the port. Thus, properly construed, claim 18 requires that the anti-virus filtering logic, which is included in an application buffer, is to be operative on a processor to analyze a content of information passing between an external device and a port.

The Examiner contends that the recitation of claim 18 may be found at paragraph [0105] of *Vairavan*. However, as explained above in connection with claim 6, although paragraph [0105] indicates that the anti-virus module in *Vairavani's* inter/intra-networking device centrally controls an anti-virus package, the anti-virus package is actually pushed to the various devices coupled to the inter/intra-networking device. Thus, like the prior art described in paragraph [0003] of the instant specification, *Vairavani* describes performing anti-virus detection at each device in the network, but does not teach or suggest anti-virus filtering logic that is to be operative on a processor to analyze a content of information passing between an external device and a port, as recited in claim 18. Accordingly, the rejection of claim 18 is in error and should be reversed by the Board.

## Conclusion

In view of the foregoing remarks, it is respectfully submitted that the rejections of claims 1-7 and 9-24 made in the final Office action should be overturned.

Respectfully submitted,

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## VIII. Claims Appendix

1. (Rejected) A method for analyzing data content received at a local area network from an external communications network, wherein the method comprises:

receiving unanalyzed content at a local area network;

passing the unanalyzed content to a switch in the local area network;

analyzing the unanalyzed content at the switch and generating analyzed data; and

routing the analyzed data to a device in the local area network in communication with the switch, wherein the switch comprises a plurality of ports, and wherein analyzing the unanalyzed content at the switch comprises the switch scanning the plurality of ports and applying a content analysis algorithm to each of the plurality of ports,

wherein applying the content analysis algorithm comprises applying a first content analysis algorithm to a first port of the plurality of ports and applying a second content analysis algorithm to a second port of the plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm.

2. (Rejected) The method of claim 1, wherein the step of analyzing the unanalyzed content comprises applying a content filtering algorithm to the unanalyzed content upon ingress at one of the plurality of ports.

3. (Rejected) The method of claim 1, wherein the step of analyzing the unanalyzed content comprises applying a content filtering algorithm to the unanalyzed content upon egress at one of the plurality of ports.

4. (Rejected) The method of claim 1 wherein the unanalyzed content is formatted in data packets.

5. (Rejected) The method of claim 4, wherein analyzing the unanalyzed content at the switch comprises the switch applying the content analysis algorithm to each data packet of unanalyzed content.

6. (Rejected) The method of claim 5, wherein the switch applying the content analysis algorithm comprises the switch executing an antivirus algorithm.

7. (Rejected) The method of claim 5, wherein the switch applying the content analysis algorithm comprises the switch executing an intrusion detection algorithm.

8. (Canceled).

9. (Rejected) The method of claim 1, wherein each of the plurality of ports comprises a dedicated processor and each dedicated processor for a respective port independently applies a separate content analysis algorithm to unanalyzed content at the port, whereby each of the plurality of ports analyzes content with its respective processor.

10. (Rejected) The method of claim 1, further comprising receiving a content analysis software update at the switch from a managed service provider network via the external communications network.

11. (Rejected) The method of claim 10, further comprising applying the content analysis software update to each of the plurality of ports at the switch configured to implement content analysis software contained in the content analysis software update.

12. (Rejected) A method of managing content analysis for a local area network from a managed service provider network, wherein the local area network comprises a switch in communication with an external communications network and at least one device in communication with the switch, wherein the method comprises:

establishing a communication link between the switch of the local area network and the managed service provider network via the external communications network;

transmitting port configuration instructions from the managed service provider network to the switch of the local area network, the port configuration instructions comprising instructions to configure a plurality of ports on a port-to-port basis at the switch to implement at least two content analysis functions and to cause the switch to scan and apply a first content analysis function to a first selected port of the plurality of ports and scan and apply a second content analysis - function to a second selected port of the plurality of ports, wherein the second content analysis function is different than the first content analysis function.

13. (Rejected) The method of claim 12, further comprising:

receiving a content analysis software update at the managed service provider network;

transmitting the content analysis software update to the switch and updating content analysis software at the switch with the content analysis software update.

14. (Rejected) The method of claim 12, further comprising monitoring content analysis activity at the switch from the managed service provider network.

15. (Rejected) A method of providing content analysis policy to a plurality of networks, the method comprising:

establishing a communication link between a switch in each of a plurality of subscriber networks and an application management appliance of a managed service provider network via an external communications network;

transmitting one of instructions or update information for a content analysis application from the application management appliance to the switch in each of the plurality of subscriber networks, the content analysis application comprising a first content analysis application and a second content analysis application, wherein the switch in each of the plurality of subscriber networks comprises a plurality of ports; and

applying the first content analysis application to a first port of the plurality of ports and applying the second content analysis application to a second port of the plurality of ports, wherein the second content analysis application is different than the first content analysis application; and

receiving performance metrics of the first and second different content analysis applications from each of the plurality of subscriber networks, and wherein receiving performance metrics comprises receiving performance metrics for each of the plurality of ports in substantially real time.

16. (Rejected) A local area network switch system having content analysis capabilities comprising:

a billing server;

a plurality of ports in communication with the billing server, each of the plurality of ports configured for communication with a respective external device, and each of the plurality of ports comprising:

an interface connection adapted for connecting with a communication line of an external device;

a processor in communication with the interface connection;

a memory in communication with the processor;

an application buffer in communication with the processor and the memory, wherein the application buffer contains logic operative on the processor to analyze a content of information passing between the external device and the port; and

a communication bus in communication with each of the plurality of ports, the communication bus adapted to carry information between the plurality of ports,

wherein a first application buffer contains logic for applying a first content analysis algorithm to a first port of the plurality of ports and a second application buffer contains logic for applying a second content analysis algorithm to a second port of the plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm, wherein the billing server is operable to track charges for content analysis services and bill on a per port basis.

17. (Rejected) The apparatus of claim 16 further comprising an application buffer administrative interface in communication with the communication bus, wherein the application buffer administrative interface comprises content analysis resources accessible by the application buffer for each of the plurality of ports.

18. (Rejected) The apparatus of claim 16, wherein at least one of the application buffers comprises anti-virus filtering logic.

19. (Rejected) The apparatus of claim 16, wherein at least one of the application buffers comprises network security logic.

20. (Rejected) The apparatus of claim 16, wherein at least one of the application buffers comprises content filtering logic.

21. (Rejected) The apparatus of claim 17, wherein the application buffer administrative interface comprises anti-virus definitions adapted for use by anti-virus logic stored on an application buffer at each of the plurality of ports.

22. (Rejected) A method for analyzing data content received at a local area network from an external communications network, wherein the method comprises:

receiving at a local area network unanalyzed data content in a data field of a data packet formatted according to a communications protocol;

passing the unanalyzed data content to a switch in the local area network;

analyzing the unanalyzed data content at the switch and generating analyzed data; and

routing the analyzed data to a device in the local area network in communication with the switch, wherein the switch comprises a plurality of ports, and wherein analyzing the unanalyzed content at the switch comprises the switch scanning the plurality of ports and applying a content analysis algorithm to each of the plurality of ports,

wherein applying the content analysis algorithm comprises applying a first content analysis algorithm to a first port of the plurality of ports and applying a second content analysis algorithm to a second port of the plurality of ports, wherein the second content analysis algorithm is different than the first content analysis algorithm.

23. (Rejected) The method of claim 22, wherein the first content analysis algorithm comprises a first data content analysis algorithm, and wherein the second content analysis algorithm comprises a second data content analysis algorithm.

24. (Rejected) A method for analyzing data content received at a local area network from an external communications network, wherein the method comprises:

receiving at a local area network unanalyzed data content in a data field of a data packet formatted according to a communications protocol;

passing the unanalyzed data content to a switch in the local area network;

analyzing the unanalyzed data content at the switch and generating analyzed data; and

routing the analyzed data to a device in the local area network in communication with the switch, wherein the switch comprises a plurality of ports, and wherein analyzing the unanalyzed data content at the switch comprises the switch scanning the plurality of ports and applying a data content analysis algorithm to each of the plurality of ports,

wherein applying the data content analysis algorithm comprises applying a first data content analysis algorithm to unanalyzed data content at a first port of the plurality of ports and applying a second data content analysis algorithm to unanalyzed data content at a second port of the plurality of ports, wherein the second data content analysis algorithm is different than the first data content analysis algorithm.

## IX. Evidence Appendix

No evidence under 37 C.F.R. § 1.130, 1.131, or 1.132 is being relied upon. The evidence relied upon is reflected in the following table.

| **Reference** | **Entered in Record** |
|---|---|
| *Islam*, U.S. Publication No. 2003/0035430 | See the final Office action dated April 1, 2009, page 2. |
| *Vairavan*, U.S. Publication No. 2002/0083344 | See the final Office action dated April 1, 2009, page 2. |
| *Jain*, U.S. Patent No. 6,324,575 | See the final Office action dated April 1, 2009, page 2. |
| *Wilson*, U.S. Patent No. 4,292,465 | See the final Office action dated April 1, 2009, page 10. |
| *Webb*, U.S. Publication No. 2002/0120741 | See the final Office action dated April 1, 2009, page 11. |
| *Van Horne*, U.S. Patent No. 5,987,430 | See the final Office action dated April 1, 2009, page 13. |

Copies of the above-noted evidence are attached hereto.

## X. Related Proceedings Appendix

None.